

***United States Court of Appeals
for the Second Circuit***



AMICUS BRIEF

77-4157

NO. 77-4157

UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT

NATURAL RESOURCES DEFENSE COUNCIL, INC.,)
Petitioner,)
vs.)
UNITED STATES NUCLEAR REGULATORY COMMISSION)
AND UNITED STATES OF AMERICA,)
Respondents.)

BRIEF FOR MID-ATLANTIC LEGAL FOUNDATION AS
AMICUS CURIAE OPPOSING THE PETITION FOR REVIEW
OF AN ORDER OF THE NUCLEAR REGULATORY COMMISSION

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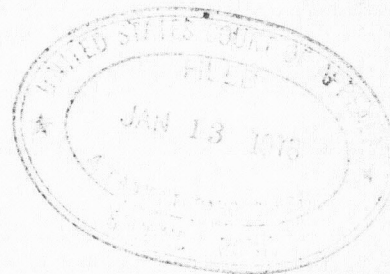


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BRIEF FOR MID-ATLANTIC LEGAL FOUNDATION AS
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The Mid-Atlantic Legal Foundation ("Mid-Atlantic"), located at 1521 Locust Street, Philadelphia, Pennsylvania, was incorporated in 1977 to engage in non-partisan legal research, study and analysis for the benefit of the general public as to the effect of evolving concepts of law on our democratic institutions. Moreover, it provides legal representation and assists other organizations in providing legal representation on matters of public interest at all levels of judicial process. Mid-Atlantic takes a particular interest in questions of law of a national scope that directly impact upon the mid-Atlantic region of the United States.

Mid-Atlantic has an interest in the case at bar because the decision below of the Nuclear Regulatory Commission interprets the Atomic Energy Act of 1954, as amended, in a fashion

which will have far-reaching consequences on the operation of the Nuclear Regulatory Commission and other federal agencies. Moreover, a decision in favor of the Natural Resources Defense Council will have a direct adverse impact upon the supply and cost of electrical power to all business and residential customers of utilities which utilize nuclear reactors in the mid-Atlantic region.

Mid-Atlantic, pursuant to Rule 27(e) and Rule 29 of the Federal Rules of Appellate Procedure, has obtained the written consent of all parties to enter the case and appends copies of those letters herewith.

I. PRELIMINARY STATEMENT

A. Proceedings Below

On November 10, 1976, the Natural Resources Defense Council, Inc. ("NRDC") filed with the Nuclear Regulatory Commission ("NRC") a Petition For Rulemaking requesting a determination, prior to issuance of reactor operating licenses, whether radioactive high-level wastes^{1/} can be disposed of in a permanent fashion.^{2/} The Commission, in a decision dated June 27, 1977, denied the Petition For Rulemaking. In its determination the Commission drew a clear distinction between the safety requirement that must be met for interim storage of radioactive waste from a reactor and its permanent disposal. In its denial, the Nuclear Regulatory Commission stated its position succinctly:

The Commission must be assured that wastes generated by licensed power reactors can be safely handled and stored as they are generated. As part of the licensing process for an individual power reactor facility, the Commission does review the facility in question in order to assure that the design

^{1/} High-level radioactive waste was defined as "(1) high-level wastes as defined in 10 C.F.R., Part 50, Appendix F, (2) spent fuel rods, and (3) transuranic-contaminated wastes." NRDC Petition at 2 note 1. Record at 4 note 1.

^{2/} NRDC Petition at 2. Record at 4.

provides for safe methods for interim storage of spent nuclear fuel. But it is neither necessary nor reasonable for the Commission to insist on proof that a means of permanent waste disposal is on hand at the time reactor operation begins, so long as the Commission can be reasonably confident that permanent disposal (as distinguished from continued storage under surveillance) can be accomplished safely when it is likely to become necessary.^{3/}

The Natural Resources Defense Council, pursuant to 28 U.S.C.A. §§ 2341 et seq., now petitions this Court to review the denial of the Petition For Rulemaking by the Nuclear Regulatory Commission.

B. Brief Description of Nuclear Fuel Cycle^{4/}

"Nuclear fuel cycle" is a term used to refer to the processes undergone by materials in their utilization as fuel in nuclear power reactors. A cycle is divided into two parts: the front end, which signifies those events which precede the loading of fuel assemblies into the reactor, and the back end, which

^{3/} NRC Notice of Denial of Petition For Rulemaking at 3-4. Record at 508-509.

^{4/} See United States Energy Research and Development Administration, The Management and Storage of Commercial Power Wastes, ERDA 76-162, at 6 (1976); Atomic Energy Commission, The Nuclear Industry, WASH 1174-74, at 39-64 (1974); Report of the Nuclear Energy Policy Study Group, Nuclear Power Issues and Choices, 389-90, 399-402 (1977) (sponsored by the Ford Foundation, administered by the MITRE Corporation).

consists of those events after the spent fuel^{5/} has been removed from the reactor.

(1) The Front End of the Nuclear Fuel Cycle

Mining of uranium ore is the first step in the nuclear fuel cycle. The raw ore goes to a milling facility, licensed by the Nuclear Regulatory Commission, which refines it to produce a uranium concentrate (U_3O_8) generally referred to as "yellowcake." The yellowcake is then shipped to a facility, separately licensed by the Commission, which converts the U_3O_8 into uranium hexafluoride gas (UF_6). The uranium hexafluoride gas is then transported to a government-owned enrichment facility, where a process of gaseous diffusion increases the percentage of the fissile uranium isotope U-235 beyond that found in natural deposits of uranium. The UF_6 , with its uranium content now enriched, is finally shipped to a fuel fabricator, also separately licensed, which converts it into the solid uranium compound, uranium dioxide (UO_2).

Ceramic pellets are fabricated from the uranium dioxide; these are encapsulated into fuel rods; and assemblies of fuel rods are placed within the core of a reactor.

Once the fuel is loaded into the reactor it becomes part of the fission process in which atoms of heavy elements (uranium and plutonium) split into two lighter atoms after capturing a neutron. The lighter atoms are accompanied by energetic neutrons

^{5/}Spent fuel is defined as "fuel elements removed from a reactor after several years of generating power. [It] contains radioactive waste materials, unburned uranium and plutonium." Nuclear Power Issues and Choices, supra note 4, at 411.

which carry on a chain reaction by initiating subsequent fissioning. This process generates heat, used to produce steam, which in turn is utilized to operate the turbines which generate electrical power.

(2) The Back End of the Nuclear Fuel Cycle

In order to allow it to cool, special water-filled pools at the reactor site store highly radioactive spent fuel following reactor operation. After several months, the cooled fuel can be moved to either an interim storage facility for subsequent reprocessing or a permanent disposal facility. Radioactive materials remaining at the conclusion of the fuel cycle are subject to waste management and disposal. These materials include fission products and materials which become radioactive through capture of neutrons or contamination by radioactive materials. The waste management process includes converting and/or packaging the waste to forms suitable for safe handling, interim storage of the waste as an option preceding final disposition, transport of waste between plant sites and storage facilities, and isolation of waste in geologic repositories for either retrievable or final disposition.

C. Federal Efforts in the Management of
Radioactive Wastes

The NRDC contends that unresolved technological problems^{6/} and a history of erratic governmental policies^{7/}

^{6/} Brief of Petitioner at 13.

^{7/} Id. at 10.

contribute to an inadequate government waste disposal program. However, a perceptive analysis of government waste disposal activities shows them to be increasingly productive. Waste disposal technology does exist; based upon advanced technological developments the government has been expanding its waste disposal program and setting goals for the actual construction of commercial waste disposal facilities.

Concern over disposal of nuclear waste developed in the early stages of the United States' nuclear energy program. In 1955, a special committee of the National Academy of Sciences--National Research Council met to identify suitable geologic formations for waste disposal and recommended use of naturally occurring salt formations.^{8/}

Beginning in November, 1965, an in situ vault test, called Project Salt Vault, was conducted in Lyons, Kansas. The NRDC says of Project Salt Vault:

... the government renewed its emphasis on the development of a deep geologic repository, and the AEC finally selected an abandoned salt mine near Lyons, Kansas, as the location for a pilot repository.... However, later investigation disclosed that water from adjacent mining operations might seep into the repository and dissolve the salt. In early 1972, the Lyons, Kansas, project was abandoned.^{9/} (citation omitted)

^{8/} Comptroller General of the United States, General Accounting Office, Report to the Congress, Nuclear Energy's Dilemma: Disposing of Hazardous Radioactive Waste Safely, EMD-77-41, at 8 (1977).

^{9/} Brief of Petitioner at 13.

While Project Salt Vault was shut down as a result of technical problems, the NRDC is overlooking the principal objective of the project, which was "to demonstrate both the feasibility and safety of the disposal of solidified high-level radioactive wastes in underground salt mines and the techniques and equipment that might be used in an actual disposal facility."^{10/} The project also served the valuable purpose of providing data on "the properties and behavior of in situ salt for use in the design of an actual waste repository."^{11/} Data obtained from Project Salt Vault can specifically be applied to a high-level waste management option in which fuel elements are stored for the life of the reactor and subsequently transferred to a permanent waste disposal repository.^{12/}

Until about 1970, most government waste disposal efforts were geared to produce technological data rather than actual operating disposal facilities. The NRDC states:

Although the search for waste disposal technology began shortly after the passage of the AEA [Atomic Energy Act], the NRC itself admits that up to about 1970, whatever waste management policy existed "had been more or less ad hoc."^{13/}

^{10/} Fairchild, P.D., and Russell, J.E., In Situ Experiments Related to Waste Repository Design, Y/OWI/TM-25 at 9 (August 1977) (prepared by Union Carbide Corporation Office of Waste Isolation for United States Energy Research and Development Administration).

^{11/} Ibid.

^{12/} Radioactive Waste Management: Hearings Before the Subcommittee on Environment and Safety of the Joint Committee on Atomic Energy, 94th Cong., 2nd Sess. 60 (1976) (statement of Frank P. Baranowski).

^{13/} Brief of Petitioner at 10.

The NRDC seems to overlook the necessity of producing vital technology upon which a sound policy can be built. Government waste management activities have, in fact, proceeded in a highly logical fashion: technologies were first developed, then utilized as a basis for policy goals for constructing workable waste disposal facilities.

In May, 1976, the Energy Research and Development Administration published a study, Alternatives for Managing Waste from Reactors and Post-Fission Operations in the LWR Fuel Cycle, ^{14/} (hereinafter "Technical Alternatives Document"), documenting the technological feasibility of safely disposing of radioactive waste. The key finding of this study was summarized before the Congress in hearings held on March 9, 1977:

... the best summary of the report's substance is to say that the technology necessary for managing the nuclear fuel cycle wastes is either commercialized, available, or under development; there are no gaps. In the especially important area of permanent disposal, the report concludes that stable geologies expected to be suitable for isolation of the waste are known, that

^{14/} United States Energy Research and Development Administration, Alternatives for Managing Wastes from Reactors and Post-Fission Operations in the LWR Fuel Cycle, ERDA-76-43 (1976) (5 Vols.).

technologies for site exploration and selection are available, and that the design principles for waste repositories are known.^{15/}

The Technical Alternatives Document describes the technology necessary for the management and disposal of nuclear waste from the three basic fuel cycle options: unrecycled fuel, uranium recycle and uranium and plutonium recycle.

Upon issuance of the Technical Alternatives Document, the Federal Energy Resources Council ("ERC"), with the participation of several federal agencies, including the Council on Environmental Quality, the U.S. Geological Survey and the Environmental Protection Agency, published a status report on the management of commercial radioactive waste. The report evaluated "both the technology and the overall integrated Federal effort on waste,"^{16/} and a basic conclusion was:

It is scientifically and technologically feasible to manage these radioactive wastes in a safe manner. This is based on the know-how and technology amassed through research, development and demonstration....^{17/}

^{15/} Public Works for Water and Power Development and Energy Research Appropriation Bill, 1978: Hearings Before the Subcommittee on Public Works of the House Committee on Appropriations, 95th Cong., 1st Sess. 569 (1977).

^{16/} Radioactive Waste Management: Hearings Before the Subcommittee on Environment and Safety of the Joint Committee on Atomic Energy, 94th Cong., 2nd Sess. 5 (1976) (statement of Elliot Richardson).

^{17/} Federal Energy Resources Council, Management of Commercial Radioactive Nuclear Wastes, A Status Report at 1 (1976).

Included in the Technical Alternatives Document is a description of a safe permanent storage of nuclear waste in deep, stable geologic formations occurring in a "natural nuclear reactor," known as the Oklo Phenomenon, in Gabon, Africa. In 1972, scientists discovered that a natural fission reactor had existed approximately 1.8 billion years ago at the site of the present Oklo uranium mine. According to a Technical Alternatives Document-based summary:

Six reactor zones produced fission energy, operating for many thousands of years. The total fission energy release was 15,000 megawatt-years, corresponding to the operation of a major nuclear power plant for 10 years, or to the fissioning of six tons of uranium.^{18/}

Significantly, this discovery evidenced sufficient natural geologic stability to safely contain radioactive material until it became harmless. The summary specifically states that isotopic analyses "showed that long-lived products, specifically plutonium-239, remained essentially immobile until they became harmless through radioactive decay."^{19/}

The identification of similar repositories capable of isolating waste has been accomplished. According to the Technical Alternatives Document summary:

^{18/} United States Energy Research and Development Administration, The Management and Storage of Commercial Power Reactor Wastes, ERDA 76-162 at 24 (1976).

^{19/} Ibid.

Rock formations capable of providing safe geologic isolation of nuclear reactor high-level wastes have been identified. These deeply buried rock beds exist in many parts of the United States.^{20/}

The former Chairman of the National Academy of Sciences--National Research Council Committee on Radioactive Waste Management, John C. Frye, concurred in testimony before the Joint Committee on Atomic Energy and specifically advocated use of salt formations:

Dr. Frye: ... the occurrence of a bed of salt in its geologic setting is very desirable, because in many places it is contained between thick shales. These shales do not permit movement of water into or out of the salt, and as a result, we have salt beds that for hundreds of millions of years have not been dissolved, have had no water moving through them. If the engineering structures are placed in these salt beds properly there is every reason to expect that for more hundreds of thousands or millions of years in the future, water would not move through them.^{21/}

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^{20/} Id. at 28.

^{21/} Radioactive Waste Management: Hearings Before the Subcommittee on Environment and Safety of the Joint Committee on Atomic Energy, 94th Cong., 2nd Sess. 163 (1976) (statement of Dr. John C. Frye).

Representative Horton: Do we have an inexhaustible supply of salt

Dr. Frye: Nothing on earth is inexhaustible but, however, I would say that our salt deposits are as near that position as anything we have.^{22/}

Knowledge of the existence of geologic formations suitable for disposal of radioactive material, along with existence of technology covering all aspects of the waste disposal process, form the foundation of current government waste disposal programs. The Energy Reorganization Act of 1974^{23/} charged the Energy Research and Development Administration with responsibility for research and development of the various phases of the nuclear fuel cycle. The Department of Energy Act of 1977^{24/} transferred these responsibilities to the Department of Energy. This Department is currently engaged in a number of projects designed to produce waste disposal facilities. Included in these efforts is the National Waste Terminal Storage Program, the Waste Isolation Pilot Plant project, and the Spent Unreprocessed Fuel Facility.

The National Waste Terminal Storage ("NWTS") program embodies the government's primary efforts to develop facilities

^{22/} Id. at 164.

^{23/} 42 U.S.C.A. § 5813(2) (1977).

^{24/} Pub. L. No. 95-91 § 301(a), 91 Stat. 577 (1977).

for geologic disposal of radioactive waste.^{25/} Its goal to develop a geologic repository for high-level commercial waste is scheduled to be accomplished by 1985. In addition, two repository sites in salt formations are expected to be identified by 1979.^{26/} The Energy Research and Development Administration commissioned the Union Carbide Corporation's Office of Waste Isolation in Oak Ridge, Tennessee, to manage the project.^{27/}

In conjunction with the National Waste Terminal Storage program, geologic formations are being studied in 36 states. The Department of Energy has selected four particular salt formations for special study as potential facility sites.^{28/} Non-salt formations are also under investigation to determine their suitability as additional waste repositories.^{29/}

^{25/} Office of Waste Isolation: Union Carbide Corporation, prepared for the United States Energy Research and Development Administration, National Waste Terminal Storage Program Progress Report for Period April 1, 1975, to Sept. 30, 1976, Y/OWI-8 at 1.

^{26/} Statement of Colin A. Heath, Assistant Director for Waste Isolation, Division of Waste Management, Department of Energy (Sept. 21, 1977), presented at the 1977 Joint Power Generation Conference, Long Beach, Cal., 5-6.

^{27/} National Waste Terminal Storage Program Progress Report, supra note 25, at 1.

^{28/} Comptroller General of the United States, General Accounting Office, Report to the Congress, Nuclear Energy's Dilemma: Disposing of Hazardous Radioactive Waste Safely, EMD-77-41 at 12 (1977).

^{29/} See National Waste Terminal Storage Program Progress Report, supra note 25, at 21-22.

The NRDC argues that veto by Michigan residents of use of a salt formation in their state for waste disposal, as well as other states' expressed opposition to repositories within their borders, are signs of "serious political and social resistance to the development of a geologic repository...."^{30/} Certainly such situations will prove problematic, but state opposition will not necessarily prohibit construction of a repository in that state. If siting a facility in a particular location is determined to be critical to the national interest, construction can be permitted by a Congressional decision to proceed.^{31/}

Another government waste management project, the Waste Isolation Pilot Plant ("WIPP"), is planned for storage of defense radioactive waste and will serve to further develop technical alternatives in commercial waste disposal. The project is being developed at a site in southeastern New Mexico and is managed by Sandia Laboratories, which works closely with the National Waste Terminal Storage project manager, the Office of Waste Isolation of the Union Carbide Corporation.^{32/} The NRDC notes that the government in 1972 announced a plan for a retrievable surface storage facility and in 1975 withdrew funding requests for the facility. The NRDC reports that the project "was purportedly retained as a back up system in case 'other repository plans failed.'"^{33/}

^{30/} Brief of Petitioner at 13-14.

^{31/} Northern States Power Co. v. Minn. 447 F.2d 1143 (8th Cir. 1971), aff'd mem., 405 U.S. 1035 (1972).

^{32/} National Waste Terminal Storage Program Progress Report, supra note 25, at 143.

^{33/} Brief of Petitioner at 13.

The NRDC fails to mention that the government has initiated a new surface storage program for a Spent Unreprocessed Fuel Facility ("SURFF") which could be operating in 1985. This program is intended as more than "a back up system"; it is being developed as an actual option for long-term surface storage.^{34/}

The NRDC alleges that changes in direction of government policy have inhibited development of waste disposal. However, the Administration's new policy of deferring spent fuel reprocessing^{35/} could actually alleviate the necessity of certain steps in the waste management process. The newly adjusted commercial waste management program allows for slower build up of multiple repositories and for elimination of parts of the program related solely to reprocessing.^{36/}

Given the existence of waste disposal technology of geologic sites suitable for disposal of radioactive waste and of competent Department of Energy waste management and disposal programs, there is no reason to defer nuclear reactor licensing for lack of suitable waste disposal. The Ford Foundation study states:

... we are persuaded that nuclear wastes can be disposed of permanently with acceptable

^{34/} Statement of Colin A. Heath, Assistant Director for Waste Isolation, Division of Waste Management, Department of Energy (Sept. 21, 1977), presented at the 1977 Joint Power Generation Conference, Long Beach, Cal., 8.

^{35/} Statement of President Jimmy Carter, Nuclear Power Policy (April 7, 1977), Washington, D.C.

^{36/} Speech by Carl W. Kuhlman, Deputy Director of Division of Waste Management, Department of Energy, Overview of Radioactive Waste Management (July 5, 1977), presented to the 22nd Annual Health Physics Society Meeting, Atlanta, Ga., 10-11.

safety by deep burial in salt and other stable geological formations that are isolated from ground water intrusion.

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Our confidence in the ability to manage spent fuel is sufficiently high that we believe the United States should be willing to take back spent fuel from countries lacking waste facilities for retrievable storage or disposal^{37/}

^{37/} Report of the Nuclear Energy Policy Study Group, Nuclear Issues and Choices, 33-35, (1977) (sponsored by the Ford Foundation, Administered by the MITRE Corporation).

II. Statement of the Issues Presented

- A. Whether The Federal Waste Management Program For Disposing Of Commercial High-Level Wastes Safely Complies With The Statutory Framework Of The Atomic Energy Act of 1954 As Amended.
- B. Whether Congress, Through Its Amendment Of The Atomic Energy Act Of 1954, Has Given Implicit Ratification To The Atomic Energy Commission And Nuclear Regulatory Commission Treatment Of The Radioactive Waste Disposal Issue.
- C. Whether The Denial By The Nuclear Regulatory Commission Of The Natural Resources Defense Council Petition For Rulemaking Violates Principles Of Agency Decision Making.

III. Argument

A. The Federal Waste Management Program For Disposing of Commercial High-Level Wastes Safely Complies With The Statutory Framework Of The Atomic Energy Act Of 1954 As Amended.

The Nuclear Regulatory Commission is the federal agency charged with responsibility for the regulation and oversight of the nuclear fuel cycle.^{38/} In considering the licensing of facilities involved in the processing and utilization of nuclear material, Congress stressed that regulation must "protect the health and safety of the public."^{39/} In its policing of the nuclear fuel cycle the Commission licenses each step of the nuclear fuel cycle, considering each facility separately.^{40/} In the case of reactor licensing, the Commission first issues

^{38/} 42 U.S.C.A. § 5841(f) (1977); 42 U.S.C.A. §§ 2011 et seq. (1977).

^{39/} 42 U.S.C.A. § 2012(d) (1973).

^{40/} 42 U.S.C.A. § 2134(b) (1973) provides:

(b) As provided for in subsection (b) or (c) of section 2132 of this title, or where specifically authorized by law the Commission is authorized to issue licenses under this subsection to persons applying therefor for utilization and production facilities for industrial and commercial purposes. In issuing licenses under this subsection, the Commission shall impose the minimum amount of such regulations and terms of licenses as will permit the Commission to fulfill its obligations under this chapter.

a construction permit^{41/} which allows construction of a facility to proceed. Although the NRC must consider the health and safety of the public at this stage,^{42/} it is clear that Congress intended a step by step procedure. First, the applicant would have to construct the facility, and then he would have to ask the Commission to grant him a license to operate the facility.^{43/} At this second stage, the operating license step, the Commission is required to ascertain that there is reasonable assurance the activities authorized by the operating license can be conducted without endangering the health and safety of the public.^{44/} This standard is crucial to the determination of this case. Absolute certainty or complete, entire or perfect assurance of safety is not required for issuance of facility operating licenses for nuclear power reactors under provisions of this section requiring the Commission to determine that there will be adequate protection to the health and safety of the public before issuing a license. Nader v. Ray, 363 F.Supp. 946, 954 (D.D.C. 1973).

^{41/} 42 U.S.C.A. § 2235 (1973).

^{42/} Power Reactor Co. v. Electricians, 367 U.S. 396, 404 (1961).

^{43/} Id. at 405.

^{44/} 42 U.S.C.A. § 2232(a) (1973); 10 C.F.R. § 50.57 (1977).

The Atomic Energy Act as amended sets out a statutory scheme that has as one of its paramount concerns the health and safety of the public. With respect to the waste disposal issue the NRDC argues that a definitive safety finding must be made prior to the issuance of any further licenses for nuclear reactors.^{45/} Although the NRDC argues that such a definitive safety finding would not entail a moratorium on power plant licensing,^{46/} such would be the practical result if the Commission was required to follow the NRDC's proposed requirement.

NRDC urges this Court that, at minimum, the NRC's definition of "reasonable assurance" should be based on a definitive finding:

- (1) that the technology exists for safe permanent disposal, although it need not be in place now;
- (2) that the appropriate technology will be fully implemented; and
- (3) that the reactor licenses are conditioned on the establishment of and compliance with appropriate deadlines for the development of safe waste disposal facilities.^{47/}

^{45/} Brief of Petitioner at 20.

^{46/} Ibid.

^{47/} Id. at 21.

Such a restrictive standard as NRDC propounds to this Court would effectively hammerlock the Commission in the execution of its duties and expand its role at the reactor operating licensing stage far beyond Congressional intent. The Commission is not required by statute to find definitively that a particular disposal technology exists and will be implemented. Indeed, as the Commission stated:

... the Atomic Energy Act clearly requires that some kind of safety finding be made prior to issuance of an operating license for a nuclear power reactor. (NRDC Petition, at 4-9). Section 103d of the Act provides that no license for a production or utilization facility may be issued if, in the opinion of the Commission, the issuance of the license would be inimical to the health and safety of the public. It seems clear, however, that the statutory findings required by section 103 apply specifically to the "proposed activities" and "activities under such licenses." (42 U.S.C. § 2133). These activities include some interim storage activities for spent fuel. They do not include the permanent disposal of high-level wastes though such wastes are, in fact, generated by operation of the reactor.^{48/}

^{48/} NRC Denial at 4, Record at 509.

The argument has been made by the California Energy Resources Conservation and Development Commission^{49/} that since the conclusion of the Commission is based on phrases drawn from 42 U.S.C.A. § 2133(b) the Commission is not supported by statutory language. Such reasoning is specious at best. A statute must be read in its totality. When this view is coupled with the argument expressed in Section V(B) infra that Congress in reviewing the statutory structure and practices of a regulatory commission implicitly ratifies that practice, then it follows that the role of a court in reviewing administrative practice is consequently circumscribed. As one court has stated: "absent extraordinary circumstances it is not proper for a reviewing court to prescribe the procedural format which an agency must use to explore a given set of issues." NRDC v. NRC, 547 F.2d 633, 644 (1976); cert. granted, sub nom. Vermont Yankee v. NRDC, No. 76-419 (U.S. Supreme Court, February 22, 1977). It should be stressed that this is clearly not a situation where an administrative agency wishes to avoid the dictates of a particular statute by fragmenting a singular project into a series of seemingly non-major components in an effort to go forward with a particular project. Cf. Union of Concerned Scientists v. The Atomic Energy Commission, 499 F.2d 1069, 1084-85 (D.C. Cir. 1974).

Indeed, the Atomic Energy Act of 1954 as amended provides further substantiation for the Commission's

^{49/} Brief of California Energy Resources Conservation and Development Commission, Amicus Curiae at 11.

position in 42 U.S.C.A. § 2232(a), which states in pertinent part:

In connection with applications for licenses to operate production or utilization facilities, the applicant shall state such technical specifications, including information of the amount, kind, and source of special nuclear material required, the place of the use, the specific characteristics of the facility, and such other information as the Commission may, by rule or regulation deem necessary in order to enable it to find that the utilization or production of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public. (emphasis added)

The implication of this particular section of the Atomic Energy Act of 1954 further signals a Congressional intent that production and utilization facilities be treated as singular steps in the regulatory process.^{50/} The Supreme Court of the United

^{50/} 42 U.S.C.A. § 2133(b) (1973) provides:

(b) The Commission shall issue such licenses on a non-exclusive basis to persons applying therefor (1) whose proposed activities will serve a useful purpose proportionate to the quantities of special nuclear material or source material to be utilized; (2) who are equipped to observe and who agree to observe such safety standards to protect health and to minimize danger to life or property as the Commission may by rule establish; (3) who agree to make available to the Commission such technical information and data concerning activities under such licenses as the Commission may determine necessary to promote the common defense and security and to protect the health and safety of the public. All such information may be used by the Commission only for the purposes of the common defense and security and to protect the health and safety of the public. (emphasis added)

States has itself recognized the problems in the regulation of the nuclear industry. It has stated that:

... nuclear reactors are fast-developing and fast-changing. What is up to date now may not, probably will not, be as acceptable tomorrow. Problems which seem insuperable now may be solved tomorrow.... We see no reason why we should not accord to the Commission's interpretation of its own regulation and governing statute that respect which is customarily given to a practical administrative construction of a disputed provision. Particularly is this respect due when the administrative practice at stake "involves a contemporaneous construction of a statute by the men charged with the responsibility of setting its machinery in motion; of making the parts work efficiently and smoothly while they are as yet untried and new." Norwegian Nitrogen Products Company v. United States, 288 U.S. 294, 315 (1933).^{51/}

To accept the NRDC's reading of the Atomic Energy Act and force the Nuclear Regulatory Commission to make a definitive safety finding pursuant to the NRDC proposed standard would be to effectively amend by judicial interpretation a carefully considered legislative regime. Such a tack would not be in the public interest. Its operative effect would be for the Court to

^{51/} Power Reactor Co. v. Electricians, 367 U.S. 396, 408 (1961).

force consideration of the definitive safety of technologies that have not as yet reached the licensing stage. To force such a consideration prior to the issuance of an operating license for a nuclear reactor bears as much logical substance as forcing a definitive safety finding on permanent disposal prior to the licensing of a uranium mining operation. Both are separate elements in the regulatory step-by-step licensing framework envisaged by the Congress. The consideration of the definitive safety of permanent disposal must await the licensing of a permanent disposal facility.

B. Congress, Through Its Amendment of The Atomic Energy Act Of 1954, Has Given Implicit Ratification To The Atomic Energy Commission And Nuclear Regulatory Commission Treatment Of The Radioactive Waste Disposal Issue.

Since passage of the Atomic Energy Act of 1954, the lack of a final decision on development of a system of permanent disposal of radioactive wastes has been considered by Congress.^{52/} In 1959, a Congressional subcommittee had extensive hearings on the subject.^{53/} On the first day of the hearings, the following exchange took place:

Representative Holifield: So it would be accurate to say that the problem of permanent disposal of high-level waste has not been solved; that it is in a state of suspension; that we are holding these high-level wastes to the extent of many millions of gallons in a temporary custody type of control and that no decisions have been made as to the final disposal of the high-level wastes.

Dr. Wolman: Unless there is some disclosure this week

^{52/} See, e.g., Radioactive Waste Disposal Problems: Hearings Before the Conservation, Energy, and Natural Resources Subcommittee of the Committee on Government Operations, 94th Cong., 2d Sess. (1976); Nuclear Reactor Safety: Hearings Before the Joint Committee on Atomic Energy, 93d Cong., 1st Sess. (1973); Energy Research and Development: Report of the Task Force on Energy Of the Subcommittee On Science, Research, and Development of the Committee On Science and Astronautics, 92d Cong., 2d Sess. (1972); Physical Research, Space Nuclear, and Nuclear Waste Management Programs: Hearings Before the Joint Committee on Atomic Energy, 92d Cong., 1st Sess. (1971).

^{53/} Industrial Radioactive Waste Disposal: Hearings Before the Special Subcommittee on Radiation of the Joint Committee on Atomic Energy, 86th Cong., 1st Sess. (1959) (5 Vols.).

before this committee, which would modify your statement, I would say that that is correct.^{54/}

Such a disclosure did not take place at these hearings or since then. In fact it should be stressed that in 1972 a Congressional Task Force on Energy specifically reported that a "current issue of controversy affecting policy for energy research and development is the adequacy of . . . technologies for the perpetual storage of the intensely radioactive wastes produced by nuclear power."^{55/} The lack of existing permanent disposal technologies was particularly noted along with the dispute on the governmental efforts in the area.

The AEC has yet to demonstrate technologies for indefinite storage of solid or liquid intensely radioactive wastes. Plans to demonstrate storage in solid form in a salt mine near Lyons, Kansas, have been upset by intense opposition and criticism, while plans to demonstrate liquid storage are still formative. For a few years makeshift storage in large storage tanks at AEC sites can accommodate the wastes from commercial nuclear power, which represents a small part of similar wastes generated by manufacture of plutonium for weapons. However, if nuclear power is to become the major source of electricity forecast by the Federal Power Commission and the AEC, a safe, reliable and

^{54/} Id. at 10.

^{55/} Energy Research and Development: Report of the Task Force On Energy Of The Subcommittee On Science, Research, and Development of the Committee On Science and Astronautics, 92d Cong., 2d Sess. 92 (1972).

environmentally compatible technology for indefinite storage must be perfected and demonstrated. Professor Benedict of MIT sees it imperative that the AEC either identify a demonstrably safe salt deposit to serve as a National waste repository, or develop a safe alternative storage concept.

Professor Rose of MIT describes the AEC's waste disposal research and development as inadequate and suggests that it look into the alternative of deep mine disposal in certain water-free igneous monoliths. On the other hand, Dean Starr does not view the long time storage of nuclear wastes as technically or economically difficult. While such storage would require each generation to take over the management of waste of its ancestors, the amount is small and task not difficult -- not much more than guarding the gold at Fort Knox.^{56/}

Indeed, aware of the problem of permanent radioactive waste disposal, Congress passed the Energy Reorganization Act of 1974.^{57/} The essential purpose of this legislation is the effective and efficient development and provision of energy sources.^{58/}

^{56/} Id. at 92-93.

^{57/} 42 U.S.C.A. §§ 5801 et seq., (1977).

^{58/} 42 U.S.C.A. § 5801(a) (1977) provides:

(a) The Congress hereby declares that the general welfare and the common defense and security require effective action to develop, and increase the efficiency and reliability of use of, all energy sources to meet the needs of present and future generations, to increase the productivity of the national economy and strengthen its position in regard to international trade, to make the Nation self-sufficient in energy, to advance the goals of restoring, protecting, and enhancing environmental quality, and to assure public health and safety.

One method utilized for the achievement of this goal was the separation of the regulatory activities from the promotional activities of the Atomic Energy Commission.^{59/}

The Energy Reorganization Act was the subject of extensive hearings^{60/} during which the subject of waste disposal was explored.^{61/} The House Conference Report stresses that Congress was fully informed that no facilities for the permanent disposal of radioactive wastes existed or were under construction.^{62/} It is important to note that given this understanding of the permanent disposal problem, Congress chose to specifically alter the Energy Reorganization Act of 1974 to reflect this fact. As was stated in the House Conference Report:

In connection with licensing of ERDA facilities used primarily for the receipt and storage of high-level radioactive wastes resulting from licensed activities, the conference substitute follows the Senate language (Subsection 203(3)) by deleting that portion of the House language (Subsection 202(3)) relating to facilities "in

^{59/} 42 U.S.C.A. §5801(c) (1977) provides:

(c) The Congress finds that it is in the public interest that the licensing and related regulatory functions of the Atomic Energy Commission be separated from the performance of the other functions of the Commission, and that this separation be effected in an orderly manner, pursuant to this chapter, assuring adequacy of technical and other resources necessary for the performance of each.

^{60/}

^{60/} Hearings on S. 2134, S. 2744 Before the Subcommittee on Energy, Research, and International Organizations of the Senate Committee on Government Operations, 93rd Cong., 2d Sess. (1974).

^{61/}

^{61/} Id. at 337-47.

^{62/}

^{62/} H. Conf. Rep. No. 93-1445, 93d Cong., 2d Sess., 3 1974 U.S. Code Cong., and Ad. News 5538, 5547; See S. Rep. No. 93-980, 93d Cong., 2d Sess., 3 1974 U.S. Code Cong., and Ad. News 5470, 5521.

existence, under construction, or authorized or appropriated for by the Congress, on the date this Act becomes effective." The deletion is made because there are no such facilities.

The conference substitute also retains the Senate language with respect to licensing of "retrievable surface storage facilities" and other facilities for long-term storage of high-level radioactive waste. Such facilities are not now in existence but will be developed in the near future for long-term, possibly permanent storage of high-level radioactive wastes, including wastes from the licensed sector. (emphasis added)^{63/}

In this atmosphere, the Congress did not place even the hint of a moratorium on nuclear power plant licensing, but rather, created the Nuclear Regulatory Commission as the central governing agency over new reactor licenses^{64/} and gave to this new entity implicit ratification of existing licensing practice.

The silence of the Congress in not requiring the Nuclear Regulatory Commission to make a specific safety finding with

^{63/} 3 1974 U.S. Code Cong., and Ad. News at 5547.

^{64/} 42 U.S.C.A. § 5841(a) (1977) provides in pertinent part:

(a)(1) There is established an independent regulatory commission to be known as the Nuclear Regulatory Commission....

42 U.S.C.A. § 5841(f) (1977) provides:

(f) There are hereby transferred to the Commission all the licensing and related regulatory functions of the Atomic Energy Commission, the Chairman and members of the Commission, the General Counsel, and other officers and components of the Commission -- which functions, officers, components, and personnel are excepted from the transfer to the Administrator by section 5814(c) of this title.

respect to the permanent disposal of radioactive wastes before it grants a construction permit or operating license for a nuclear reactor is critical. The opinion of the Supreme Court of the United States in the case of Power Reactor v. Electricians, 367 U.S. 396 (1961), is particularly apposite to the case at bar.

In Power Reactor the Court was presented with the question of whether the Commission in issuing a permit for the construction of a facility which would utilize nuclear material had to make the same definitive finding of safety of operation as it must make prior to licensing actual operation of the facility.^{65/} The Court held^{66/} that the Commission could defer a definitive safety finding until operation is actually licensed. The Court, in arriving at its decision, noted the importance of Congressional ratification of agency activity and the great judicial deference that must be accorded it.

And finally, and perhaps demanding particular weight, this construction has time and again been brought to the attention of the Joint Committee of Congress on Atomic Energy, which under § 202 of the Act, 42 U.S.C. § 2252, has a special duty during each session of Congress "to conduct hearings in either open or executive session for the purpose of receiving information concerning the development, growth, and state of the atomic energy industry," and to oversee the operations of the AEC. See, e.g., Hearings on Development, Growth and State of the Atomic Energy Industry, 84th Cong., 2d Sess., p. 106

^{65/} 367 U.S. 396, 398.

^{66/} Id. at 407-408.

(1956); Hearings on Development, etc., 85th Cong., 2d Sess. pp. 119-121 (1958); Hearings on Development, etc., 86th Cong., 2d Sess., pp. 103-109, 677-678 (1960); Hearings on Development, etc., 87th Cong., 1st Sess., pp. 29-32 (1961); Hearings on Governmental Indemnity for Private Licensees and AEC Contractors Against Reactor Hazards, 84th Cong., 2d Sess., pp. 62-65 (1956); A Study of AEC Procedures and Organization in the Licensing of Reactor Facilities, 85th Cong., 1st Sess. pp. 11-14, 100-108 (Joint Comm. Print 1957).

No change in this procedure has ever been suggested by the Committee, although it has on occasion been critical of other aspects of the PRDC proceedings not before us. It may often be shaky business to attribute significance to the inaction of Congress, but under these circumstances, and considering especially the peculiar responsibility and place of the Joint Committee on Atomic Energy in the statutory scheme, we think it fair to read this history as de facto acquiescence in and ratification of the Commission's licensing procedure by Congress. Cf., e.g., Ivanhoe Irrig. Dist. v. McCracken, 357 U.S. 275, 292-294 (1958); Brooks v. Dewar, 313 U.S. 354, 360-361 (1942).^{67/}

^{67/} Id. at 408-409.

In the case at bar, the Congress has been kept abreast of the problems in the disposal of radioactive waste ^{68/} and has chosen to defer to the AEC and now NRC treatment of the issue. For the Court to require otherwise would be a policy decision that is best left to the legislative branch of government.

^{68/} See Hearings, supra note 52.

C. The Denial By The Nuclear Regulatory
Commission Of The NRDC Petition For
Rulemaking Does Not Violate Principles
Of Agency Decision Making.

The NRDC urges this Court that under the National Environmental Policy Act of 1969 ("NEPA")^{69/} the Nuclear Regulatory Commission must consider the "indirect or second order effects of the immediate projects proposed, and must abjure any limitation of perspective to the immediate boundaries or site of a project."^{70/} It argues that failure of the Nuclear Regulatory Commission to consider the safety aspect of permanent disposal of radioactive wastes is violative of the environmental analysis requirement of NEPA. Such a contention is a non sequitur. The Atomic Energy Act of 1954, as amended, and the National Environmental Policy Act of 1969 are two distinct statutes with different legislative goals.^{71/} For the Court to attempt to analyze the AEA under a line of authority applicable to NEPA would be to confuse two distinct lines of inquiry.

It cannot be denied that NEPA requires that agencies of the Federal Government shall include in any major action significantly affecting the human environment an impact statement detailing any adverse environmental effects and proposed

^{69/} 42 U.S.C.A. §§ 4321 et seq. (1977).

^{70/} Petitioner's Brief at 39.

^{71/} See Union of Concerned Scientists v. Atomic Energy Commission, 499 F.2d 1069, 1078 (D.C. Cir. 1974).

alternatives.^{72/} Moreover, although NEPA requires that public laws such as the AEA be interpreted in accordance with the goals of NEPA,^{73/} it does not follow that failure to make a definitive safety finding with respect to permanent waste disposal technology prior to the issuance of reactor operating licenses under the health and safety requirements of AEA is violative of the mandates of NEPA. Indeed, as has been stated:

^{72/} 42 U.S.C.A. §4332(2)(C)(1977) provides:

(2) all agencies of the Federal Government shall

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on --

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of Title 5, and shall accompany the proposal through the existing agency review processes;

.

^{73/} 42 U.S.C.A. §4332(1)(1977).

Perhaps the greatest importance of NEPA is to require the Atomic Energy Commission and other agencies to consider environmental issues just as they consider other matters within their mandates.^{74/} (emphasis added)

The passage of NEPA did not initiate or expand any duty of the Nuclear Regulatory Commission under the Atomic Energy Act with respect to making a definitive finding of the safety of radioactive disposal prior to the licensing of a nuclear reactor. As the Supreme Court of the United States has opined:

The statutory language, in fact, indicates that NEPA was not intended to repeal by implication any other statute. Thus, 42 U.S.C. § 4335 specifies that "[t]he policies and goals set forth in [NEPA] are supplementary to those set forth in existing authorizations of Federal agencies," and 42 U.S.C. § 4334 instructs that the Act "shall [not] in any way affect the specific statutory obligations of any Federal agency.... " Rather than providing for any wholesale overruling of prior law, NEPA requires all federal agencies to review their "present statutory authority, administrative regulations, and current policies and

^{74/} Calvert Cliff's Coord. Com. v. Atomic Energy Com'n
449 F.2d 1109, 1112 (D.C. Cir. 1971).

procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of [NEPA] and shall propose to the President ... such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in [NEPA]."

42 U.S.C. § 4333. ^{75/}

Thus, although the Nuclear Regulatory Commission is required to comply with the mandate of NEPA, this obligation is wholly separate from the demands of the safety determination under the Atomic Energy Act of 1954.

The NRDC urges this Court that the Commission has attempted to insulate its decision from public and judicial scrutiny.^{76/} Upon review of the record, such a contention is devoid of merit given the careful analysis given to the subject of waste disposal by the Commission.

In arriving at its decision the Commission reviewed:

- the Technical Alternatives Document^{77/}
- the NRC's development of a generic programmatic environmental impact statement
- the progress being made toward geologic site selection for a federal repository

^{75/} United States v. Students Challenging Regulatory Agency Procedures (SCRAP), 412 U.S. 669, 694 (1972).

^{76/} Petitioner's Brief at 25.

^{77/} See Discussion, supra at 9.

- spent fuel disposal technologies
- the technology available for waste solidification, and
- the option of interim storage site selection if temporary facilities become necessary.^{78/}

Its efforts continued when the Commission highlighted the progress being made by the NRC staff in formulating criteria and regulations to be used in licensing a federal waste repository. Moreover, it should be stressed that the Commission indicated that it had gained information as a consequence of recent efforts by its staff with respect to the environmental proceedings on fuel processing and waste management,^{79/} in addition to the knowledge obtained from the proceedings on plutonium recycle and mixed oxide fuel.^{80/}

Such Commission actions form a considerable basis on which a public or judicial review of the Commission decision can be made. To argue otherwise is to ignore the substantial basis on which the Commission's denial of the NRDC's petition is predicated.

^{78/} NRC Denial at 14-15, R at 519-20.

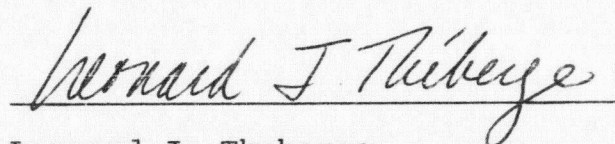
^{79/} NRC Denial at 15-16, R at 520-21.

^{80/} NRC Denial at 16, R at 521.

IV. Conclusion

For all the foregoing reasons, amicus curiae respectfully requests that NRDC's petition for review be dismissed in all respects.

Respectfully submitted,



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IN THE UNITED STATES COURT OF APPEALS
FOR THE SECOND CIRCUIT

NATURAL RESOURCES DEFENSE COUNCIL,
INC.,

Petitioner,

vs.

UNITED STATES NUCLEAR REGULATORY
COMMISSION and UNITED STATES OF
AMERICA,

Respondents.

NO. 77-4157

CERTIFICATE OF SERVICE

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